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MEMORANDUM

TO: The Board of Oil, Gas and Mining

FROM: Mary Ann Wright, Reclamation Biologist

SUBJECT: Crystal Mine
McFarland & Hullinger
ACT/045/010
Tooele County, Utah

DATE: December 13, 1979

The Division of Oil, Gas and Mining has reviewed the Mining and Reclamation plan submitted by McFarland & Hullinger for the Crystal Mine and feels the plan meets the requirements of the Utah Mined Land Reclamation Act. The Division seeks the Board's concurrence so that tentative approval may be issued.

The Division also seeks the Board's concurrence with the amount and form of the reclamation surety (\$16,972.00). McFarland & Hullinger propose to post a performance bond for the amount specified.

An Executive Summary is enclosed for your review and information.

MAW/te

Attachment: Executive Summary

EXECUTIVE SUMMARY
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Crystal Mine
McFarland & Hullinger
ACT/045/010
Tooele County, Utah

COMMODITY & LOCATION:

McFarland & Hullinger propose to operate a 17.6 acre open pit limestone mine in Mercur Canyon for about 10 years. The legal description of the mine is Section 12, Township 6 South, Range 4 West and Section 7, Township 6 South, Range 3 West.

A map showing the location is enclosed.

SOILS & GEOLOGY:

Limestone rock ledge outcroppings with a shallow soil-rock overburden characterize the mine site. Alluvium is found in the draws and at the slope bottoms.

HYDROLOGY:

No groundwater will be encountered in the mining operation.

Surface water at the mine site in the form of a spring-fed ephemeral drainage across the road from the mine site will not be affected by the operation.

ECOLOGY & LAND USE:

The vegetation in the area of mining consists of sparse pinyon-juniper cover with big sage, wormwood, ephedra, rabbitbrush and cheatgrass in the understory. Gambel oak is found in the adjoining drainage. Overall vegetative cover is approximately 5%.

Current land use is wildlife and livestock grazing and mining.

MINING & RECLAMATION PLAN:

McFarland & Hullinger have committed to the following:

During Operations:

1. This open pit mining operation will be restricted to two or three different ledge-rock outcroppings that are spaced at about 50 foot intervals on a steep slope. Blasting and rock removal will follow eastward and westward along a contour from a principal drainage.
2. Topsoil will be stockpiled from disturbance of the alluvial fan at the base of the slope and protected from erosion for the life of the mine.

3. Blasting of rock will occur and warning signs will be posted along the adjacent public road at each end of the mining operation.
4. Mining will be conducted in a safe and orderly fashion.
5. No surface facilities or buildings will exist onsite.

After Operations:

1. All requirements of Rule M-10 will be met except for the two areas for which variances may be needed and are therefore requested.
2. Highwalls of solid rock may need to be left as a result of rock removal. However, if the gradient can be modified to facilitate revegetating the surface, the slopes will be modified to a lower gradient.
3. Areas between the perpendicular rock walls will be modified to lessen gradient and retain moisture.
4. Areas disturbed at the base of the steep hill will be regraded, topsoiled, mulched and revegetated with acceptable species for the postmining land use.
5. Solid rock outcrops will not be revegetated.

IMPACTS:

1. Highwall conditions may be left at the mine site.
2. Solid rock outcroppings will exist where a steep, vegetated natural slope existed.

RECLAMATION SURETY ESTIMATE:

Reclamation of this mine was estimated to cost \$5,000.00 in today's dollars. With the inflation factor of 13% for 10 years, reclamation is estimated at \$16,972.00.